

```

GTAACCAAGCTGGTCACCGCACTGCGCCGTGAATTCGATCTGCCAGTGCACGTGCACACC
2221 -----+-----+-----+-----+-----+ 2280
      V T K L V T A L R R E F D L P V H V H T
CACGACACTGCGGGTGGCCAGTTGGCTACCTACTTTGCTGCAGCTCAAGCTGGTGCAGAT
2281 -----+-----+-----+-----+-----+ 2340
      H D T A G G Q L A T Y F A A A Q A G A D
GCTGTTGACGGTGCCTTCGCGACCACTGTCTGGCACCACCTCCCAGCCATCCCTGTCTGCC
2341 -----+-----+-----+-----+-----+ 2400
      A V D G A S A P L S G T T S Q P S L S A
ATTGTTGCTGCATTTCGCGCACACCCGTCGCGATACCGGTTTGAGCCTCGAGGCTGTTTCT
2401 -----+-----+-----+-----+-----+ 2460
      I V A A F A H T R R D T G L S L E A V S
GACCTCGAGCCGTAAGCTGTGCGCGGACTGTACCTGCCATTTGAGTCTGGAACC
2461 -----+-----+-----+-----+-----+ 2520
      D L E P Y W E A V R G L Y L P F E S G T
CCAGGCCCAACCGGTGCGCTCTACCGCCACGAAATCCCAGGCGGACAGTTGTCCAACCTG
2521 -----+-----+-----+-----+-----+ 2580
      P G P T G R V Y R H E I P G G Q L S N L
CGTGCACAGGCCACCGCACTGGGCCTTGCTGATCGCTTCGAGCTCATCGAAGACAACCTAC
2581 -----+-----+-----+-----+-----+ 2640
      R A Q A T A L G L A D R F E L I E D N Y
GCAGCCGTTAATGAGATGCTGGGACGCCCAACCAAGGTCACCCCATCCTCCAAGGTGTT
2641 -----+-----+-----+-----+-----+ 2700
      A A V N E M L G R P T K V T P S S K V V
GGCGACCTCGCACTCCACCTGGTTGGTGCGGGTGTAGATCCAGCAGACTTTGCTGCAGAC
2701 -----+-----+-----+-----+-----+ 2760
      G D L A L H L V G A G V D P A D F A A D
CCACAAAAGTACGACATCCCAGACTCTGTTCATCGCGTTTCCTGCGCGGCGAGCTTGGTAAC
2761 -----+-----+-----+-----+-----+ 2820
      P Q K Y D I P D S V I A F L R G E L G N
CCTCCAGGTGGCTGGCCAGAACCACTGCGCACCCGCGCACTGGAAGGCCGCTCCGAAGGC
2821 -----+-----+-----+-----+-----+ 2880
      P P G G W P E P L R T R A L E G R S E G
AAGGCACCTCTGACGGAAGTTTCCTGAGGAAGAGCAGGCGCACCTCGACGCTGATGATTCC
2881 -----+-----+-----+-----+-----+ 2940
      K A P L T E V P E E E Q A H L D A D D S

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FIG. 1D

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2941 AAGGAACGTCGCAACAGCCTCAACCGCCTGCTGTTCCCGAAGCCAACCGAAGAGTTCCTC 3000
-----+-----+-----+-----+-----+-----+
      K E R R N S L N R L L F P K P T E E F L

3001 GAGCACCGTCGCCGCTTCGGCAACACCTCTGCGCTGGATGATCGTGAATTCTTCTACGGA 3060
-----+-----+-----+-----+-----+-----+
      E H R R R F G N T S A L D D R E F F Y G

3061 CTGGTCGAGGGCCGCGAGACTTTGATCCGCCTGCCAGATGTGCGCACCCCACTGCTTGT 3120
-----+-----+-----+-----+-----+-----+
      L V E G R E T L I R L P D V R T P L L V

3121 CGCCTGGATGCGATCTCTGAGCCAGACGATAAGGGTATGCGCAATGTTGTGGCCAACGTC 3180
-----+-----+-----+-----+-----+-----+
      R L D A I S E P D D K G M R N V V A N V

3181 AACGGCCAGATCCGCCCAATGCGTGTGCGTGACCGCTCCGTTGAGTCTGTCCACGCAACC 3240
-----+-----+-----+-----+-----+-----+
      N G Q I R P M R V R D R S V E S V T A T

3241 GCAGAAAAGGCAGATTCTCTCCAACAAGGGCCATGTTGCTGCACCATTGCTGGTGTGTGTC 3300
-----+-----+-----+-----+-----+-----+
      A E K A D S S N K G H V A A P F A G V V

3301 ACTGTGACTGTTGCTGAAGGTGATGAGGTCAAGGCTGGAGATGCAGTCGCAATCATCGAG 3360
-----+-----+-----+-----+-----+-----+
      T V T V A E G D E V K A G D A V A I I E

3361 GCTATGAAGATGGAAGCAACAATCACTGCTTCTGTTGACGGCAAGATTGAACGCGTTGTG 3420
-----+-----+-----+-----+-----+-----+
      A M K M E A T I T A S V D G K I E R V V

3421 GTTCCTGCTGCAACGAAGGTGGAAGGTGGCGACTTGATCGTCGTCGTTTCCTAA 3474
-----+-----+-----+-----+-----+-----+
      V P A A T K V E G G D L I V V V S *

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FIG. 1E

|              |     |     |   |   |  |     |
|--------------|-----|-----|---|---|--|-----|
| ATCC 21253   | pyc | 1   |   |   |  | 50  |
| NRRL B-11474 | pyc |     | MST HTSSTLPAPK KILVANRGEI AVRAFRAALE                    |   |  |     |
|              |     |     | MTAITLGGLL LKGIITLV                                     |   |  |     |
| ATCC 21253   | pyc | 51  |   |   |  | 100 |
| NRRL B-11474 | pyc |     | TGAATVAIYP REDRGSFHRS FASEAVRIGT EGSPVKAYLD IDEIIGAACK  |   |  |     |
| ATCC 21253   | pyc | 101 |   |   |  | 150 |
| NRRL B-11474 | pyc |     | VKADAIYPGY GFLSENAQLA RECAENGITF IGPTPEVLDL TGDKSRAVTA  |   |  |     |
| ATCC 21253   | pyc | 151 |   |   |  | 200 |
| NRRL B-11474 | pyc |     | AKKAGLPVLA ESTPSKNIDE IVKSAEGQTY PIFVKAVAGG GGRGMRFVAS  |   |  |     |
|              |     |     |   | D |  | S   |
| ATCC 21253   | pyc | 201 |   |   |  | 250 |
| NRRL B-11474 | pyc |     | PDELRLKATE ASREAEEAFG DGAVYVERAV INPQHIEVQI LGDHTGEVVH  |   |  |     |
|              |     |     |   | S |  | R   |
| ATCC 21253   | pyc | 251 |   |   |  | 300 |
| NRRL B-11474 | pyc |     | LYERDCSLQR RHQKVVEIAP AQHLDPELRD RICADAVKFC RSIGYQGAGT  |   |  |     |
| ATCC 21253   | pyc | 301 |   |   |  | 350 |
| NRRL B-11474 | pyc |     | VEFLVDEKGN HVFIEMNPRI QVEHTVTEEV TEVDLVKAQM RLAAGATLKE  |   |  |     |
| ATCC 21253   | pyc | 351 |   |   |  | 400 |
| NRRL B-11474 | pyc |     | LGLTQDKIKT HGAALQCRIT TEDPNNGFRP DTGTITAYRS PGGAGVRLDG  |   |  |     |
| ATCC 21253   | pyc | 401 |   |   |  | 450 |
| NRRL B-11474 | pyc |     | AAQLGGEITA HFDSMLVKMT CRGSDFETAV ARAQRALAEF TVSGVATNIG  |   |  |     |
| ATCC 21253   | pyc | 451 |   |   |  | 500 |
| NRRL B-11474 | pyc |     | FLRALLREED FTSKRIATGF IADHPHLLQA PPADDEQGRI LDYLADVTVN  |   |  |     |
|              |     |     |   | G |  |     |
| ATCC 21253   | pyc | 501 |   |   |  | 550 |
| NRRL B-11474 | pyc |     | KPHGVRPKDV AAPIDKLPNI KDLPLPRGSR DRLKQLGPAA FARDLREQDA  |   |  |     |
| ATCC 21253   | pyc | 551 |   |   |  | 600 |
| NRRL B-11474 | pyc |     | LAVTDTTFRD AHQSLLATRV RSFALKPAAE AVAKLTPELL SVEAWGGATY  |   |  |     |
| ATCC 21253   | pyc | 601 |   |   |  | 650 |
| NRRL B-11474 | pyc |     | DVAMRFLFED PWDRLDELRE AMPNVNIQML LRGRNTVGYT PYPDSVCRAF  |   |  |     |
| ATCC 21253   | pyc | 651 |   |   |  | 700 |
| NRRL B-11474 | pyc |     | VKEAASSGVD IFRIFDALND VSQMRPAIDA VLETNTAVAE VAMAYSGDLS  |   |  |     |
| ATCC 21253   | pyc | 701 |   |   |  | 750 |
| NRRL B-11474 | pyc |     | DPNEKLYTLD YYLKMAEEIV KSGAHILAIAK DMAGLLRPAA VTKLVTALRR |   |  |     |
| ATCC 21253   | pyc | 751 |   |   |  | 800 |
| NRRL B-11474 | pyc |     | EFDLPVHVHT HDTAGGQLAT YFAAAQAGAD AVDGASAPLS GTTSQPSLSA  |   |  |     |

FIG. 2A